

Glossary

DEFINITIONS - ABBREVIATIONS



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GLOSSARY OF TERMS

The express purpose of this Glossary of Standardized Terms is to provide common and readily understandable definitions to facilitate communications and operations among hazardous materials emergency responders when dealing with hazardous materials incidents. This glossary is not intended as a legal or scientific reference.

Abatement - The actions taken to reduce the amount, degree of the hazard, or intensity of the release or threatened release of a hazardous material.

Absorbent Material - A material designed to pick up and hold liquid hazardous material to prevent contamination spread.

Absorption - 1) The process of absorbing or "picking up" a liquid hazardous material to prevent enlargement of the contaminated area. 2) Movement of a toxicant into the circulatory system by oral, dermal, or inhalation exposure.

Acceptable Risk - A risk judged to be outweighed by corresponding benefits or one that is of such a degree that it is considered to pose minimal potential for adverse effects.

Access Control Point - The point of entry and exit which regulates traffic to and from control zones.

ACGIH - See American Conference of Governmental Industrial Hygienists

Acid - A hydrogen-containing corrosive material that reacts with water to produce hydrogen ions; a proton donor.

Acute Effect - An adverse action on a human or animal, generally after a single significant exposure, which may be mild or severe. (See Chronic Effect.)

Acute Exposure - Exposure that is short in duration.

Acute Release - Release of a hazardous material that is short in duration.

Acute Toxicity - Any harmful effect produced by a single short-term exposure that may result in severe biological harm or death.

Adjuvant - A substance used in pesticide formulation to aid its action. (Also used in the manufacture of drugs.)

Administering Agency - The designated unit of a county or city tasked to administer the local implementation of the state and federal hazardous material emergency planning and community right-to-know programs.

Adsorption - Process of adhering to a surface.

Aerosols - Liquid droplets, or solid particles dispersed in air, that are of fine enough particle size (0.01 to 100 microns) to remain dispersed for a period of time.

After Action Report - A post-incident analysis report generated by a responsible party or responding agency after termination of a hazardous material incident describing actions taken, materials involved impacts, etc.

Agency Specific Plan - An emergency plan written by and addressing an individual agency's response actions, capabilities, and resources.

AIHA - See American Industrial Hygiene Association;

Airborne Pollutants - Contaminants that are carried/released into the atmosphere or air.

Air Modeling - Mathematical models used to predict movement and concentrations of chemicals in the atmosphere.

Air Monitoring - To measure, record, and/or detect pollutants in ambient air.

Air-Purifying Respirators (APR) - Personal Protective Equipment; a breathing mask with specific chemical cartridges designed to either filter particulates or absorb contaminants before they enter the worker's breathing zone. They are intended to be used only in atmospheres where the chemical hazards and concentrations are known.

Air-Purifying Respirator (APR) – Powered - An APR with a portable motor to force air through the filtering/ purifying cartridges for use only in atmospheres where the chemical hazards and concentrations are known.

Air Quality Management District (AQMD) - A local/regional air pollution agency responsible for regulation and monitoring of air quality.

Alkali - A hydroxide containing (-OH) corrosive material, which is soluble in water, neutralizes acids, and is irritating or destructive to tissue.

Ambient Air Quality - Quality of the surrounding atmosphere or circulating air.

American Conference of Governmental Industrial Hygienists (ACGIH) - A professional society of persons responsible for full-time industrial hygiene programs, who are employed by official governmental units. Its primary function is to encourage the interchange of experience among governmental industrial hygienists and to collect and make available information of value to them. ACGIH promotes standards and techniques in industrial hygiene and coordinates governmental activities with community agencies.

American Industrial Hygiene Association (AIHA) - An organization of professionals trained in the recognition and control of health hazards and the prevention of illness related thereto. It promotes the study and control of environmental factors affecting the health of industrial workers and provides information and communication services pertaining to industrial hygiene.

American National Standards Institute (ANSI) - The Institute serves as a clearing house for nationally coordinated voluntary safety, engineering and industrial standards developed by industrial firms, trade associations, technical societies, consumer organizations, and government agencies.

American Society for Testing and Materials (ASTM) - The Society establishes voluntary consensus standards for materials, products, systems, and services. Sponsors research projects, develops standard test methods, specifications and recommended practices now in use.

Anhydrous - Free from water, dry.

Asbestos - A silicate of calcium or magnesium mineral, the friable form occurring in threadlike fibers; non-combustible and a nonconductor of electricity; a known carcinogen.

Asbestosis - A disease of the lungs caused by the inhalation of fine airborne fibers of asbestos.

Asphyxiant - A vapor or gas that can cause unconsciousness or death by suffocation (lack of oxygen).

Assessment - The process of determining the nature and degree of hazard of a hazardous material or hazardous materials incident.

Assisting Agencies - Any agency that assists the agency having jurisdiction at the scene of a hazardous materials incident by providing a service or support not within the immediate responsibility or capability of the agency having jurisdiction.

Association of American Pesticide Control Officials Inc. - This association consists of officials charged by law with active execution of the laws regulating the sale of economic poisons and of deputies designated by these officials employed by state, territorial, dominion, or federal agencies.

Association of American Railroads (AAR) - A central coordinating and research agency of the American railway industry.

Authority Having Jurisdiction - 1) Provides for the position of Incident Commander/Scene Manager at the scene of a hazardous materials incident occurring within their jurisdictional response boundaries. The organization, office, or individual responsible for approving the equipment, an installation, or a procedure. (NFPA)

Base (Chemical) - A hydroxide containing (-OH) corrosive material that when in a water solution is bitter, more or less irritating, or caustic to the skin.

Base (INCIDENT COMMAND SYSTEM) - Location at which additional equipment, apparatus, and personnel are assembled for primary support of activities at the incident scene. The command post may be located at the "base." (NIIMS)

Bioassay - Determination of the relative strength and toxicity of a substance (such as a drug) by comparing its effect on a test organism with that of a standard preparation.

Bioaccumulation - Absorption and storage of toxic chemicals from the environment in an organism, usually in body fat.

Biohazard - Infectious agents presenting a risk or potential risk to living organisms, either directly through infection or indirectly through disruption of the environment.

Biohazard Area - Any area in which work has been, or is being performed, with infectious agents or materials.

Biological Agents - Biological materials that are capable of causing acute or long-term damage to living organisms. (NFPA 1990, 1-3)

Biological Half-Life - The time required for a living organism to eliminate half of a substance that it takes in.

Biological Treatment - A process by which waste is rendered less hazardous, or is reduced in volume, by relying on the action of microorganisms.

Blasting Agent - A material designed for blasting which has been tested and found to be so insensitive that there is very little probability of accidental initiation to explosion or of transition from deflagration to detonation.

Boiling Liquid Expanding Vapor Explosion (BLEVE) - Container failure with a release of energy, often rapidly and violently, which is accompanied by a release of gas to the atmosphere and propulsion of the container or container pieces due to an over-pressure rupture.

Boom - A floating physical barrier serving as a continuous obstruction to the spread of a contaminant.

Bootie - A sock-like over-boot protector worn to minimize contamination.

Breakthrough Time - The elapsed time between initial contact of the hazardous chemical with the outside surface of a barrier, such as protective clothing material, and the time at which the chemical can be detected at the inside surface of the material.

Breathing Zone Air Sample - A sample collected in the breathing area of a worker to assess exposure to airborne contaminants.

Buddy System - A system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group.

Buffer Zone - The area of land that surrounds a hazardous waste facility on which certain usage and activities are restricted to protect the public health and safety and the environment from existing or potential hazards caused by the migration of hazardous waste.

Bureau of Alcohol, Tobacco and Firearms (ATF) - The federal agency that enforces and administers firearms and explosive laws, as well as those covering the production, use, and distribution of alcohol and tobacco products.

Canadian Transport Emergency Center (CANUTEC) - A 24-hour, government sponsored hot line for chemical emergencies. (The Canadian version of CHEMTREC.)

Carboy - A container, usually encased in a protective basket or crate, used to ship hazardous materials, particularly corrosives.

Carcinogen - An agent that produces or is suspected of producing cancer. (FEMA/MCP)

Cascade System - Several air cylinders attached in series to fill Self-Contained Breathing Apparatus (SCBA) bottles.

Catastrophic Incident - An event that significantly exceeds the resources of a jurisdiction.

Cease and Desist Order - Legal direction to stop any and all activities.

Celsius (Centigrade) °C - The internationally used scale for measuring temperature, in which 100° is the boiling point of water at sea level (1 atmosphere) and 0° is the freezing point.

Center for Disease Control (CDC) - The federally funded research organization tasked with disease control and research.

CFR –

- 1) Crash, Fire, Rescue personnel; trained in aircraft fire fighting and rescue.
- 2) Code of Federal Regulations; enforced by federal and state agencies and contain statutes for the function of federal government.

CGA - See Compressed Gas Association

Chemical Abstracts Service (CAS) Number - A numbering system assigned by the American Chemical Society often used by local and state hazardous materials compliance legislation for tracking chemicals in the workplace and in the community.

Chemical Hazards Response Information System/ Hazard Assessment Computer System (CHRIS/ HACS) - Developed by the Coast Guard, HACS is a computerized model of the CHRIS manuals (containing chemical-specific data) and is used by federal on-scene coordinators during a chemical spill response.

Chemical Manufacturers Association - The parent organization that operates CHEMTREC.

Chemical Protective Clothing Material - Any material or combination of materials used in an item of clothing for the purpose of isolating parts of the wearer's body from contact with a hazardous chemical. (NFPA 1991, 1-3)

Chemical Protective Suit - Single or multi-piece garment constructed of chemical protective clothing materials designed and configured to protect the wearer's torso, head, arms, legs, hands, and feet (NFPA 1991, 1-3).

Chemical Resistance - The ability to resist chemical attack. The attack is dependent on the method of test and its severity is measured by determining the changes in physical properties. Time, temperature, stress, and reagent may all be factors that affect the chemical resistance of a material.

Chemical Resistant Materials - Materials that are specifically designed to inhibit or resist the passage of chemicals into and through the material by the processes of penetration, permeation, or degradation.

Chemical Transportation Emergency Center (CHEMTREC) - The Chemical Transportation Center, operated by the Chemical Manufacturers Association (CMA), can provide information and technical assistance to emergency responders. (Phone number- 1-800-424-9300)

Chemnet - A mutual aid network of chemical shippers and contractors. It is activated when a member shipper cannot respond promptly to an incident involving chemicals. (Contact is made through CHEMTREC.)

Chlorep - The chlorine emergency plan, established by the Chlorine Institute, enables the nearest producer of chlorine to respond to an incident involving chlorine. (Contact is made through CHEMTREC.)

Chlorine Kits - Standardized kits commercially manufactured by contract with the Chlorine Institute to provide equipment to control or stop leaks in chlorine cylinders, tanks, and transportation tank cars.

Chronic Effect - Delayed or slowly developing harm resulting from a chemical exposure that is often hard to recognize.

Clandestine Laboratory - An operation consisting of a sufficient combination of apparatus and chemicals that either have been or could be used in the illegal manufacture/synthesis of controlled substances.

Clean Air Act (CAA) - A set of national standards for ambient air quality that defines the principal types and levels of pollution that should not be exceeded. This law requires states to develop "state implementation plans" for achieving the ambient air standards in each air quality control region in the state.

Cleanup - Incident scene activities directed toward removing hazardous materials, contamination, debris, damaged containers, tools, dirt, water, and road surfaces in accordance with proper and legal standards and resuming the site to as near a normal state as existed prior to the incident. (Sacramento Fire Department HMRT)

Cleanup Company (Hazardous Waste) - A commercial business entity available for hire to specifically remove, transport and/or dispose of hazardous wastes; and when appropriate, must meet California Highway Patrol and Department of Toxic Substances Control requirements.

Cleanup Operation - An operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

Clean Water Act (CWA) - Federal legislation to protect the nation's water and set state water quality standards for interstate navigable waters as the basis for pollution control and enforcement. The main objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters.

Cold Zone - The area outside of the warm zone. Equipment and personnel are not expected to become contaminated in this area. This is the area where resources are assembled to support the hazardous materials operation.

Colorimetric Tubes - Glass tubes containing a chemically treated substrate that reacts with specific airborne chemicals to produce a distinctive color. The tubes are calibrated to indicate approximate concentrations in air.

Composite Liquid Waste Sampler (COLIWASA) - A tool designed to provide stratified sampling of a liquid container.

Combustibility - The ability of a substance to undergo rapid chemical combination with oxygen, with the evolution of heat.

Combustible Liquid - Liquids with a flashpoint above 141° F and below 200° F. 49 CFR 173.120 (b) and 172.101 (d) (4)

Combustion Product - By-products produced or generated during the burning or oxidation of a fuel.

Command - The act of directing, ordering, and/or controlling resources by virtue of explicit legal, agency, or delegated authority. (NIIMS)

Command Post - The location from which all incident operations are directed and planning functions are performed. The communications center is often incorporated into the command post. (NIIMS)

Community Awareness and Emergency Response (CAER) - A program developed by the Chemical Manufacturers Association (CMA) to provide guidance for chemical plant managers to assist them in taking the initiative in cooperating with local communities developing integrated hazardous materials response plans.

Community Right-to-Know - Legislation requiring business establishments to provide chemical inventory information to local agencies or the public.

Company (Fire Usage) - Any piece of fire response equipment having a full complement of personnel.

Compatibility - The matching of protective chemical clothing to the hazardous material involved providing the best protection for the worker.

Compatibility Charts - Permeation and penetration data supplied by manufacturers of chemical protective clothing to indicate chemical resistance and breakthrough time of various garment materials as tested against a battery of chemicals. This test data should be in accordance with ASTM and NFPA standards.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - Known as CERCLA or SUPERFUND, it addresses hazardous substance releases into the environment and the cleanup of inactive hazardous waste sites. It also requires those who release hazardous substances, as defined by the Environmental Protection Agency (EPA), above certain levels (known as "reportable quantities") to notify the National Response Center.

Compressed Gas - Any material or mixture having an absolute pressure exceeding 40 psi in the container at 70° F or, regardless of the pressure at 70° F, having an absolute pressure exceeding 104 p.s.i. at 130° F or any liquid flammable material having a vapor pressure exceeding 40 psi absolute at 100° F as determined by testing. Also includes cryogenic or "refrigerated liquids" (DOT) with boiling points lower than -130° F at 1 atmosphere.

Compressed Gas Association (CGA) - Firms producing and distributing compressed, liquefied, and cryogenic gases; also manufacturers of related

equipment. Submits recommendations to appropriate government agencies to improve safety standards and methods of handling, transporting, and storing gases; acts as advisor to regulatory authorities and other agencies concerned with safe handling of compressed gases; collaborates with national organizations to develop specifications and standards of safety.

Computer Aided Management of Emergency Operations (CAMEO) - A computer database storage-retrieval system of pre-planning and emergency data for on-scene use at hazardous materials incidents.

Confinement - Procedures taken to keep a material in a defined or localized area.

Consignee - The addressee to whom the item is shipped.

Contact - Being exposed to an undesirable or unknown substance that may pose a threat to health and safety.

Container - Any device, in which a hazardous material is stored, transported, disposed of, or otherwise handled.

Container, Intermodal, ISO - An article of transport equipment that meets the standards of the International Organization for Standardization (ISO) designed to facilitate and optimize the carriage of goods by one or more modes of transportation without intermediate handling of the contents and equipped with features permitting ready handling and transfer from one mode to another. Containers may be fully enclosed with one or more doors, open top, tank, refrigerated, open rack, gondola, flatrack, and other designs. Included in this definition are modules or arrays that can be coupled to form an intrinsic unit regardless of intention to move single or in multiplex configurations.

Containment - All activities necessary to bring the incident to a point of stabilization and to establish a degree of safety for emergency personnel greater than existed upon arrival.

Contamination - An uncontained substance or process that poses a threat to life, health, or the environment. (NFPA 472, sections 1-3)

Contamination Control Line - The established line around the contamination reduction zone that separates it from the support zone.

Contamination Reduction Zone - Term used by the Coast Guard to identify the area of moderate hazard where threat of contamination spread to the immediate surrounding area is low. It is the area immediately outside of the inner hot zone. (See Warm Zone)

Contingency - A pre-planned document presenting an organized and coordinated plan of action to limit potential pollution in case of fire, explosion or discharge of hazardous materials; defines specific responsibilities and tasks.

Control - The procedures, techniques, and methods used in the mitigation of a hazardous materials incident, including containment, extinguishment, and confinement.

Control Zones - The designation of areas at a hazardous materials incident based upon safety and the degree of hazard. (PUPA 472, sections 1-3) (See Support Zone, Warm Zone, Hot Zone, and Decontamination Corridor.)

Coordination - To bring together, in a uniform and controlled manner, the functions of all agencies on scene.

Corrosive - The ability to cause destruction of living tissue or many solid materials surfaces by chemical action.

Cost Recovery - A procedure that allows for the agency having jurisdiction to pursue reimbursement for all costs associated with a hazardous materials incident.

Council on Environmental Alternatives (CEA) - Encourages people to conserve, rather than consume, their environment. The Council concentrates on the area of energy and provides specific recommendations, which encourage individuals to recognize and assume responsibility for environmentally sound choices available to them.

Cryogenic - Gases, usually liquefied, that induce freezing temperatures of -150° F and below (liquid oxygen, liquid helium, liquid natural gas, and liquid hydrogen, etc.).

Damage Assessment - Gathering information on the type, extent, and costs of damage after an incident.

Damming - A procedure consisting of constructing a dike or embankment to totally immobilize a flowing waterway contaminated with a liquid or solid hazardous substance. (EPA, 600/2-77-277)

Dangerous When Wet - A label required for water reactive materials (solid) being shipped under U.S. DOT, ICAO, and IMO regulations. A labeled material that is in contact with water or moisture may produce flammable gases. In some cases, these gases are capable of spontaneous combustion. (49 CFR 171.8)

Declared Emergency - An action taken by a jurisdiction according to the California Emergency Services Act and local ordinances in response to the impact of a real or threatened hazard that exceeds local resources.

Decon - Popular abbreviation referring to the process of decontamination.

Decontamination - The physical and/or chemical process of reducing and preventing the spread of contamination from persons and equipment used at a hazardous materials incident. (Also referred to as "contamination reduction.") (NFPA 472, 1-3)

Decontamination Corridor - A distinct area within the warm zone that functions as a protective buffer and bridge between the hot zone and the cold zone where decontamination stations and personnel are located to conduct decontamination procedures.

Decontamination Officer - A position within the FIREScope ICS HM-120 that has responsibility for identifying the location of the decontamination corridor, assigning stations, managing all decontamination procedures, and identifying the types of decontamination necessary.

Decontamination Team (Decon Team) - A group of personnel and resources operating within a decontamination corridor.

Degradation - The loss in physical properties of an item of protective clothing due to exposure to chemicals, use, or ambient conditions.

Delayed Toxic Exposure Effect - The condition in which symptoms of an exposure are not present immediately after the exposure but are delayed for a relatively short period of time (such as pulmonary edema a few hours after an inhalation exposure).

Deleterious Substances - Substances not normally harmful to humans that may be harmful to the environment.

Department of Commerce (DOC) - A federal agency whose primary mission is to encourage, serve, and promote economic development and technological advancement.

Department of Defense (DOD) - The federal entity that provides the military forces needed to deter war and protect the security of our country.

Department of Energy (DOE) - The federal agency that provides the framework for a comprehensive and balanced national energy plan through coordination and administration of the energy functions of the federal government; and to be responsible for long-term, high risk research, development and demonstration of energy technology, the marketing of federal power, energy conservation, the nuclear weapons program, regulation of energy production and use, and a central energy data collection and analysis program.

Department of Justice (DOJ) - The federal department that serves as counsel for the citizens of the nation; represents them in enforcing the law in the public interest; through its thousands of lawyers, investigators, and agents it plays a key role in protection against criminals and subversion, in ensuring healthy competition of business in our free enterprise system, in safeguarding the consumer, and in enforcing drug, immigration, and naturalization laws; plays a significant role in protecting citizens through its efforts for effective law enforcement, crime prevention, crime detection, and prosecution and rehabilitation of offenders; conducts all suits in the Supreme Court in which the United States is concerned; and represents the government in legal matters.

Department of Labor (DOL) - The purpose of the Department of Labor is to foster, promote, and develop the welfare of the wage earners of the United States, to improve their working conditions, and to advance their opportunities for profitable employment.

Department of State (DOS) - This department advises the President in formulation and execution of foreign policy; promotes long-range security and well-being of the United States; determines and analyzes the facts relating to American overseas interest, makes recommendations on policy and future action, and takes the necessary steps to carry out established policy; engages in continuous consultation with the American public, the Congress, other U.S. departments and agencies, and foreign governments.

Department of Transportation (DOT) - This agency assures the coordinated, effective administration of the transportation programs of the federal government and develops national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest possible cost.

Desiccant - A substance, such as silica gel, that removes moisture (water vapor) from the air to maintain a dry atmosphere in containers of food or chemical packaging.

Detectors - Combustible Gas Indicator (CGI) detector - Measures the presence of a combustible gas or vapor in air. Corrosive, (pH) detector - A meter or paper that indicates the relative acidity or alkalinity of a substance, generally using an international scale of 0 (acid) through 14 (alkali/caustic). (See pH.)

- **Flame Ionization Detector (FID)** - A device used to determine the presence of hydrocarbons in air.
- **Gas Chromatograph/Mass Spectrometer Detector** - An instrument used for identifying and analyzing organics.
- **Heat Detector** - An instrument used to detect heat by sensing infrared waves.
- **Photoionization Detector (PID)** - A device used to determine the presence of gases/vapors in low concentrations in air.
- **Radiation Beta Survey Detector** - An instrument used to detect beta radiation.
- **Radiation Dosimeter Detector** - An instrument that measures the amount of radiation to which a person has been exposed.
- **Radiation Gamma Survey Detector** - An instrument used for the detection of ionizing radiation, principally gamma radiation, by means of a gas-filled tube.

Dike - An embankment or ridge, natural or manmade, used to control the movement of liquids, sludges, solids, or other materials.

Dike Overflow - A dike constructed in a manner that allows uncontaminated water to flow unobstructed over the dike while keeping the contaminant behind the dike.

Dike Underflow - A dike constructed in a manner that allows uncontaminated water to flow unobstructed under the dike while keeping the contaminant behind the dike.

Dispersion - To spread, scatter, or diffuse through air, soil, surface or ground water.

Disposal Drum - A reference to a specially constructed drum used to overpack damaged or leaking containers of hazardous materials for shipment.

Diversion - The intentional, controlled movement of a hazardous material to relocate it into an area where it will pose less harm to the community and the environment.

Division - That organizational level within the Incident Command System having responsibility for operations within a defined geographic area. The "Division" Officer directs approximately five companies, and answers to the "Operations" Officer. (NIIMS)

Dose - The amount of substance ingested, absorbed, and/or inhaled per exposure period.

Double Gloving - A set of gloves worn over those already in place for enhanced protection.

Downwind - In the direction in which the wind blows.

Dust - Solid particles generated by handling, crushing, grinding, rapid impact, detonation, and decrepitation of organic or inorganic materials such as rock, ore, metal, coal, wood, and grain.

Ecology - A branch of science concerned with the interrelationship of organisms and their environments.

Economic Poison - As defined in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), an economic poison is "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi or weeds, or any other forms of life declared to be pests . . . any substance intended for use as a plant regulator, defoliant, or desiccant." As defined, economic poisons are generally known as pesticides.

Ecosystem - A habitat formed by the interaction of a community of organisms with their environment.

Edema - The swelling of body tissues resulting from fluid retention.

Emergency Medical Services (EMS) - Functions as required providing emergency medical care for ill or injured persons by trained providers.

Emergency Medical Services Authority (EMSA) - The state agency responsible for developing general guidelines for triage and handling of contaminated/exposed patients; develops and promotes hazmat training for emergency medical responders in the field and hospital emergency rooms; identifies and coordinates the procurement of medical assistance, supplies, and hospital beds when local and/or regional resources are depleted; and coordinates the evacuation of casualties to other areas of the state.

Emergency Operations Center (EOC) - The secured site where government officials exercise centralized direction and control in an emergency. The EOC serves as a resource center and coordination point for additional field assistance. It also provides executive directives to and liaison for state and federal government representatives, and considers and mandates protective actions.

Emergency Operations Plan - A document that identifies the available personnel, equipment, facilities, supplies, and other resources in the jurisdiction, and states the method or scheme for coordinated actions to be taken by individuals and government services in the event of natural, manmade, and attack related disasters.

Emergency Response - Response to any occurrence that has or could result in a release of a hazardous substance.

Emergency Response Organization - An organization that utilizes personnel trained in emergency response.

Emergency Response Personnel - Personnel assigned to organizations that have the responsibility for responding to different types of emergency situations. (NFPA 1991, 1-3)

Empty Packaging - Any packaging having a capacity of 110 gallons or less that contains only the residue of a hazardous material in Table 2 of 49 CFR 172.504.

Endothermic - A process or chemical reaction that is accompanied by absorption of heat.

Engine (fire usage) - Any emergency response vehicle providing specified levels of pumping, water, hose capacity, and personnel.

Entry Point - A specified and controlled location where access into the hot zone occurs at a hazardous materials incident.

Entry Team Leader - The entry leader is responsible for the overall entry operations of assigned personnel within the hot zone. FIREScope ICS-HM)

Environmental Protection Agency (EPA) - The purpose of the Environmental Protection Agency (EPA) is to protect and enhance our environment today and for future generations to the fullest extent possible under the laws enacted by Congress. The Agency's mission is to control and abate pollution in the areas of water, air, solid waste, pesticides, noise, and radiation. EPA's mandate is to mount an integrated, coordinated attack on environmental pollution in cooperation with state and local governments.

EOC Liaison - Person designated to establish communications between the incident scene and the EOC.

EPA - See Environmental Protection Agency

Etiologic Agent - A viable microorganism or its toxin, which causes or may cause human disease.

Evacuation - The removal of potentially endangered, but not yet exposed, persons from an area threatened by a hazardous materials incident. (FIREScope ICS-HM)

Explosive Ordnance Disposal (EOD) - Military or civilian bomb squads.

Extremely Hazardous Substances (EHS) - Environmental Protection Agency (EPA) uses this term for chemicals, which must be reported pursuant to SARA, Title III. The list of these substances and the threshold planning quantities are identified in 40 CFR 355. Releases of extremely hazardous substances as defined by EPA must be reported to the National Response Center.

Extremely Hazardous Waste - Any hazardous waste or mixture of hazardous wastes that, if human exposure should occur, may likely result in death, disabling injury or serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration, or chemical characteristics.

Exclusion Zone - See Hot Zone.

Exothermic - A process or chemical reaction that is accompanied by the evolution of heat.

Explosion-Proof Equipment - Instruments whose enclosure is designed and constructed to prevent the ignition of an explosive atmosphere. Certification for explosion proof performance is subject to compliance with ASTM standards.

Explosive Class 1 – Any substance or article, including a device, which is designed to function by explosion (i.e., an extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner even if not designed to function by explosion. Explosives in Class 1 are divided into six divisions. See 49 CFR 173.50 (b).

Exposure - The subjection of a person to a toxic substance or harmful physical agent through any route of entry.

Fahrenheit (°F) - The scale of temperature in which 212 is the boiling point of water at 760 mm Hg and 32° is the freezing point.

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) - An act that requires pesticides to be registered and labeled, makes it illegal to detach or destroy pesticide labels, and provides for pesticide inspections. An amendment to FIFRA now requires EPA to determine whether a pesticide "will perform its intended function without causing unreasonable adverse effects on the environment" or human health.

Federal Water Pollution Control Act (1972) WPCA - See Clean Water Act

Fibrosis - A condition marked by an increase of interstitial fibrous tissue.

Filter Canister - A container filled with sorbents and catalyses that remove gases and vapors from air drawn through the unit. The canister may also contain an aerosol (particulate) filter to remove solid or liquid particles.

First Responder - The first trained person(s) to arrive at the scene of a hazardous materials incident may be from the public or private sector of emergency services.

First Responder, Awareness Level - Individuals who are likely to witness or discover a hazardous substance release who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release.

First Responder, Operations Level - Individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures.

Flammable Liquid - Any liquid having a flash point below 141°F (37.8°C). (49 CFR 173.120 (a))

Flammable Range - A mixture of flammable gas, as mixed with air, expressed as a percent. Each gas has a range including a lower limit and upper limit and between these limits the mixture is flammable (explosive).

Flammable Solid - Any solid material, other than one classed as an explosive, which under conditions normally incident to transportation is liable to cause fires through friction, retains heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard. Included in this class are spontaneously combustible and water-reactive materials. (49 CFR 173.150)

Flashpoint - The minimum temperature of a liquid at which it gives off vapors sufficiently fast to form an ignitable mixture with air and will flash when subjected to an external ignition source but will not continue to burn.

Food and Drug Administration (FDA) - Performs, directs, and coordinates detection and control activities that protect consumers against adulterated, misbranded, or falsely advertised foods, drugs, medical devices, and hazardous products.

Full Protective Clothing - Protective clothing worn primarily by firefighters that includes helmet, coat, pants, boots, gloves, and self-contained breathing apparatus designed for structural fire fighting. It does not provide specialized chemical protection.

Fully Encapsulating Suits - Chemical protective suits that are designed to offer full body protection, including Self-Contained Breathing Apparatus (SCBA), are gas tight, and meet the design criteria as outlined in NFPA Standard 1991.

Fume - Airborne dispersion consisting of minute solid particles arising from the heating of a solid material such as lead, in distinction to a gas or vapor. This physical change is often accompanied by a chemical reaction, such as oxidation. Fumes flocculate and sometimes coalesce. Odorous gases and vapors should not be called fumes.

Gas - A state of matter in which the material has very low density and viscosity; can expand and contract greatly in response to changes in temperature and pressure; easily diffuses into other gases; readily and uniformly distributes itself throughout any container. A gas can be changed to a liquid or solid state by the combined effect of increased pressure and/or decreased temperature.

Gelling - A process of adding a specific material that is designed to coagulate a liquid facilitating its isolation and removal.

Grounding - Method whereby activities, which may generate static electricity, will be prevented from discharging a spark and thereby not produce an ignition point.

Group - The organization level within the incident command system having responsibility for operations within a specific functional area; i.e., salvage, ventilation, hazmat. (NIMS)

Habitat - The native environment of an animal or plant; the natural place for life and growth of an animal or plant.

Halons - Fire suppressing gases that are composed of straight chain carbon atoms with a variety of halogen atoms attached.

Halogens - A chemical family that includes fluorine, chlorine, bromine, and iodine.

Hazard - Any situation that has the potential for causing damage to life, property, and/or the environment.

Hazard Assessment - A process used to qualitatively or quantitatively assess risk factors to determine incident operations.

Hazard Class - The eight classes of hazardous materials as categorized and defined by the Department of Transportation in 49 CFR.

Hazardous Air Pollutant - An airborne pollutant that may cause or contribute to an increase in mortality or serious illness.

Hazardous Chemical - A term used by the United States Occupational Safety and Health Administration (OSHA) to denote any chemical that would be a risk to employees if exposed in the workplace. The list of hazardous chemicals is found in 29 CFR.

Hazardous Material - A substance (solid, liquid, or gas) capable of posing an unreasonable risk to health, safety, environment or property.

Hazardous Material Categorization - A field analysis process to determine basic hazardous materials hazard classification and some chemical and physical properties of unknowns.

Hazardous Materials Emergency - The release or threatened release of a hazardous material that may impact the public health, safety, and/or the environment.

Hazardous Materials Safety Officer/Official - A person at a hazardous materials incident responsible for assuring that all operations performed at a hazardous materials incident, by all members present, are done so with respect to the highest levels of safety. The Hazardous Materials Safety Officer has full authority to alter, suspend, or terminate any activity that may be judged to be unsafe, advises the hazardous materials group supervisor, and reports to the IC through the site safety officer.

Hazardous Substance - Hazardous Substance, as used by the California Department of Toxic Substances Control, encompasses every chemical regulated by both the Department of Transportation (hazardous materials) and the Environmental Protection Agency (hazardous waste), including emergency response.

Hazardous Waste –

- 1) Waste materials or mixtures of waste, which require special handling and disposal because of their potential to damage health and/or the environment.
- 2) The Environmental Protection Agency uses the term hazardous waste for chemicals that are regulated under the Resource Conservation and Recovery Act and are listed in 40 CFR 261.33 (d). Environmental Protection Agency or California of Toxic Substances Control regulated hazardous waste, when in transport, must also meet 49 CFR parts 170 through 179.

Hazardous Waste Facility - Any location used for the treatment, transfer, disposal or storage of hazardous waste as permitted and regulated.

Hazardous Waste Generation - The act or process of producing hazardous waste.

Hazardous Waste Leachate - Any liquid that has percolated through or drained from hazardous waste placed in or on the ground.

Hazardous Waste Management - Systematic control of the collection, source separation, storage, transportation, processing, treatment recovery, and disposal of hazardous wastes.

Hazardous Waste Manifest, Uniform - A shipping document required by 40 CFR Part 262 and 49 CFR Part 172 to accompany any shipment of hazardous waste from the originator to a point of disposal/destruction or treatment.

Hazardous Waste Site - A location where hazardous wastes are located.

HAZCAT - See Hazardous Materials Categorization

Hazmat - Acronym used for Hazardous Materials.

Health Hazard, Chemical - Any chemical or chemical mixture, with physical or chemical properties that may cause acute or chronic health effects.

Heavy Metal - A high density metallic element that may demonstrate health hazards as a result of exposure and may contribute to contamination of the environment. This includes chromium (Cr), beryllium (Be), lead (Pb), mercury (Hg), zinc (Zn), copper (Cu), cadmium (Cd) and others.

Hepatotoxic - A substance that negatively affects the liver.

Herbicide - An agricultural chemical intended for killing plants or interrupting their normal growth. (See Pesticides)

High Performance Liquid Chromatography (HPLC) - A procedure used in organic analysis to separate chemical mixtures based on differential ionic absorption to various substrates.

HMRT - See Hazardous Materials Response Team

Hot Tapping - A sophisticated method of welding on and the cutting of holes through liquid, compressed gas vessels, and piping for the purpose of relieving pressure and/or removing product.

Hot Zone - Area immediately surrounding a hazardous materials incident that extends far enough to prevent adverse effects from hazardous materials releases to personnel outside the zone. This zone is also referred to as the "exclusion zone," the "red zone," and the "restricted zone" in other documents. (NFPA 472, 1-3)

Hygroscopic - A substance that has the property of absorbing moisture from the air, such as silica gel.

Hypergolic - Two chemical substances that spontaneously ignite upon mixing.

Ignitable Material - Any material having, as a liquid, a flash point less than 140° F or, if not a liquid, is capable of causing fires through friction, absorption of moisture, or spontaneous chemical changes.

Ignition Temperature - The minimum temperature at which a material will initiate or maintain combustion.

Immediately Dangerous to Life or Health (IDLH) - An atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an

immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

Incident - An event involving a hazardous material or a release or potential release of a hazardous material.

Incident Action Plan - A plan that is initially prepared at the first meeting of emergency personnel who have responded to an incident. The Incident Action Plan contains general control objectives reflecting overall incident strategy and specific action plans.

Incident Command - A disciplined method of management established for the specific purpose of control and direction of resources and personnel.

Incident Commander (IC)/Scene Manager (SM) - The person responsible for all decisions relating to the management of the incident

Incident Command Post - See Command Post

Incident Command System (ICS) - An organized system of roles, responsibilities, and standard operating procedures used to manage and direct emergency operations.

Incompatible Waste - Waste unsuitable for commingling with another waste or material.

Industrial Wastes - Unwanted materials produced in or eliminated from an industrial operation.

Infectious Waste - Waste containing pathogens; may consist of tissues, organs, body parts, blood, and body fluids.

Ingestion - The process of taking substances such as food, drink, and medicine into the body through the mouth.

Inhibitor - A chemical added to another substance to prevent or slow down an unwanted or sudden occurrence of chemical change.

Inorganic Compounds - Chemical compounds that do not contain the element carbon with the exception of carbon oxides and carbon sulfides.

Insecticide - A chemical product used to kill and control insects. (See Pesticides.)

International Air Transport Association (IATA) - An association of air carriers that develops guidelines for transportation of cargo.

International Civil Aviation Organization (ICAO) - An organization that develops the principles and techniques of international air navigation and fosters the planning and development of international air transport so as to ensure safe and orderly growth.

Investigate - To systematically search or inquire into the particulars of an incident and collect the necessary evidence to seek criminal and/or civil prosecution.

Irritant - A material that has an anesthetic, irritating, noxious, toxic, or other similar property which can cause extreme annoyance or discomfort. (49 CFR)

Isolating the Scene - Preventing persons and equipment from becoming exposed to a release or threatened release of a hazardous material by the establishment of site control zones.

Jurisdiction Specific Plan - A plan that details emergency activities, capabilities, responsibilities, and resources within an area, agency, facility or political subdivision.

Labpack - Putting multiple small containers of chemicals with compatible chemical characteristics in a disposal drum with absorbent material.

Lacrimation - Tearing produced by eye irritation.

LC50 (Lethal Concentration, 50%) - The amount of a toxicant in air that is deadly to 50% of the exposed lab animal population within a specified time.

LD50 (Lethal Dose, 50%) - The amount of a toxicant administered other than by inhalation, which is deadly to 50% of the exposed lab animal population within a specified time.

Leak - The uncontrolled release of a hazardous material, which could pose a threat to health, safety, and/or the environment.

Leak Control Compounds - Substances used for the plugging and patching of leaks in non-pressure containers.

Leak Control Devices - Tools and equipment used for the plugging and patching of leaks in non-pressure and some low-pressure containers, pipes, and tanks.

Level of Protection - In addition to appropriate respiratory protection, designations of types of personal protective equipment to be worn based on NFPA standards. Level A- Vapor protective suit for hazardous chemical emergencies. Level B- Liquid splash-protective suit for hazardous chemical emergencies. Level C- Limited use protective suit for hazardous chemical emergencies.

Local Disaster Plan - A plan developed and used by local government for extraordinary events.

Local Emergency Planning Committee (LEPC) - A committee appointed by a state emergency response commission, as required by SARA Title III, to formulate a comprehensive emergency plan for its corresponding Office of Emergency Services mutual aid region.

Local Government - A political subdivision within a state.

Localized Exposure - Contact with a limited area, usually an external body surface.

Logistics Chief - That organizational position within the Incident Command System having responsibility for summoning and managing support, apparatus, equipment, and personnel.

Lower Explosive Limit (LEL) - The lowest concentration of the material in air that can be detonated by spark, shock, or flue, etc.

Macro-encapsulation - The isolation of a waste by embedding it in, or surrounding it with, a material that acts as a barrier to water or air (e.g., clay and plastic liners).

Marking - The required descriptive name, instructions, cautions, weight, or specifications or combination thereof on containers of hazardous materials/hazardous waste.

Material Safety Data Sheet (MSDS) - A document that contains information regarding the specific identity of hazardous chemicals, including information on health effects, first aid, chemical and physical properties, and emergency phone numbers.

Melting Point - The temperature at which a material changes from a solid to a liquid.

Microorganism - A living organism not visible to the unaided eye.

Mist - Suspended liquid droplets generated by condensation from the gaseous to the liquid state or by breaking up a liquid into a dispersed state, such as by splashing, foaming, or atomizing. A mist is formed when a finely divided liquid is suspended in air.

Mitigation - Any action employed to contain, reduce, or eliminate the harmful effects of a spill or release of a hazardous material.

Monitoring - The act of systematically checking to determine contaminant levels and atmospheric conditions.

Monitoring Environmental Contamination - Use of instruments and other techniques to determine the presence or levels of hazardous materials.

Monitoring Equipment - Instruments and devices used to identify, qualify, and/or quantify contaminants.

MSDS - See Material Safety Data Sheet

Multi-Hazard Functional Planning - The California format used for developing disaster and emergency plans.

Mutagen - A substance capable of causing genetic damage.

Mutual Aid - An agreement to supply specifically agreed upon aid or support in an emergency situation between two or more agencies, jurisdictions, or political sub-divisions.

Narcosis - Stupor or unconsciousness produced by chemical substances.

National Contingency Plan (NCP) - Created by CERCLA to define the federal response authority and responsibility for oil and hazardous material spills.

National Fire Protection Association (NFPA) - An international voluntary membership organization to promote improved fire protection and prevention, establish safeguards against loss of life and property by fire, and write and publish the American National Standards.

National Incident Management System (NIMS) - A standardized systems approach to incident management that consists of five major sub-divisions collectively providing a total systems approach to all-risk incident management.

National Institute for Occupational Safety and Health (NIOSH) - A federal agency which, among other activities, tests and certifies respiratory protective devices, air sampling detector tubes, and recommends occupational exposure limits for various substances.

National Oceanic and Atmospheric Administration (NOAA) - The agency responsible to serve as scientific support coordinator for a federal onscene coordinator. Assists in oil spill and air toxics modeling and meteorological monitoring and oceanic research.

National Pesticide Telecommunications Network (NPTN) - The 24-hour national hotline (1-800/858-PEST) operated by the Texas Tech University School of Medicine providing toll-free information about pesticide safety, application, chemistry, and toxicology to callers in the U.S., Puerto Rico, and the Virgin Islands. Questions are answered directly or via next day mail.

National Response Center (NRC) - A communications center operated by the United States Coast Guard headquarters located in Washington, DC. They provide information on suggested technical emergency actions and must be notified within 24 hours of any spill of a reportable quantity of a hazardous substance.

Necrosis - Death in a particular part of a living tissue.

Nephrotoxic - A substance that negatively affects the kidneys.

Neurotoxic - A substance that negatively affects the nervous system.

Neutralization - The process by which acid or alkaline properties of a solution are altered by addition of certain reagents to bring the hydrogen and hydroxide concentrations to equal value (pH 7 is neutral).

Non-Flammable Gas - Any material or mixture, in a cylinder or tank, other than poison or flammable gas, having an absolute pressure in the container exceeding 40 psi at 70°F, or having an absolute pressure exceeding 104 psi at 130°F. (49 CFR)

North American (NA) Number - A four-digit number used in the United States and Canada to identify a hazardous material or group of hazardous materials in transportation.

Not Otherwise Specified (NOS or n.o.s.) - In shipping regulations, the term is used for classes of substances to which restrictions apply, but for which the individual members of the class are not listed in the regulations.

Occupational Safety and Health Administration (OSHA) - Component of the United States Department of Labor, an agency with safety and health regulatory

and enforcement authorities for most United States industries, businesses, and states.

Odor Threshold - The lowest concentration in the atmosphere that can be detected by the human sense of smell. Often a poor indicator of toxicity risk.

Office of Hazardous Materials Safety (OHMS) - A federal agency tasked with the research and recommended revisions to 49 CFR.

Oil - Any of numerous mineral, vegetable, and synthetic substances and vegetable and animal fats that are generally slippery, combustible, viscous, liquid or undergo liquefaction at room temperature.

Oil Spill Cleanup Agent - Any material used in removing oil from the environment, including inert sorbent materials, approved chemical dispersants, surface collecting agents, sinking agents, and biological additives.

Olfactory - Pertaining to the sense of smell.

On-Scene Coordinator (OSC) - As explained in the National Contingency Plan, it is the pre-designated federal official who coordinates federal activities at a hazardous material incident, and monitors the incident for compliance with federal pollution laws.

Operations - That organizational level within the Incident Command System (ICS) immediately subordinate to the Incident Commander. When established, this position is responsible for the direct management of all incident tactical activities. (NIIMS)

Oral Toxicity - Adverse effects resulting from taking a substance into the body through the mouth.

Organic Peroxide - Strong oxidizers, often chemically unstable such as benzoyl peroxide, containing -O-O- in the molecule. The vast majority will include peroxide or peroxy- as part of the name. They react readily with solvents or fuels resulting in an explosion or fire.

Other Regulated Materials D - ORM D - A material, such as a consumer commodity, which presents a limited hazard during transportation due to its form, quantity, and packaging. (49 CFR 173.144)

Overpack - An enclosure used to consolidate two or more packages of hazardous material. "Overpack" does not include a freight container.

Oxidizer - A chemical, other than a blasting agent or explosive, that initiates or promotes combustion in other materials thereby causing fire either of itself or through the release of oxygen or other gases. (49 CFR 173.151)

Oxygen Deficiency - A concentration of oxygen insufficient to support life.

Oxygen Deficient Atmosphere - An atmosphere that contains oxygen content less than 19.5% by volume at sea level.

Pallets - A low portable platform constructed of wood, metal, plastic, or fiberboard, built to specified dimensions, on which supplies are loaded, transported, or stored in units.

Parts Per Billion (ppb) - A unit for measuring the concentration of a particular substance equal to one (1) unit combined with 999,999,999 other units.

Parts Per Million (ppm) - A unit for measuring the concentration of a particular substance equal to one (1) unit combined with 999,999 other units.

Pathogen - Any disease producing organism including viruses.

PCB Contaminated Electrical Equipment - Any electrical equipment, including transformers, that contains at least 50 ppm but less than 500 ppm of PCBs. (40 CFR 761.3)

PCB Item - An item containing PCBs at a concentration of 5 ppm or greater. (40 CFR 761.3)

PCB Transformer - Any transformer that contains 500 ppm of PCBs or greater. (40 CFR 761.3)

Penetration - The movement of liquid molecules through a chemical protective clothing, suit, garment, or material.

Permeation - The movement of vapor or gas molecules through a chemical protective garment material.

Permeation Kits - Kits assembled for the purpose of testing on-site an unknown liquid substance for permeability of chemical protective clothing.

Permissible Exposure Limit (PEL) - The employees' permitted exposure limit to any material listed in Table Z1, Z2, or Z-3 of OSHA regulations, section 1910.1000, Air Contaminants.

Persistent Toxic Substance - A material or waste that resists natural degradation or detoxification and may present long-term health and environmental hazards.

Personal Protective Equipment (PPE) - Equipment provided to shield or isolate a person from the chemical, physical, and thermal hazards that may be encountered at a hazardous materials incident. Adequate personal protective equipment should protect the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. Personal protective equipment includes personal protective clothing, self-contained positive pressure breathing apparatus, and air purifying respirators. (NFPA 472, 1-3)

Pesticides - A chemical or mixture of chemicals used to destroy, prevent, or control any living organism considered to be a pest.

pH - A numerical designation of the negative logarithm of hydrogen ion concentration. A pH of 7.0 is neutrality; higher values indicate alkalinity and lower values indicate acidity.

Plugging and Patching Kits - Kits commercially available or privately assembled for the purpose of providing capabilities for emergency plugging or patching of leaking containers, pipes, and tanks.

Plume - A vapor, liquid, dust or gaseous cloud formation that has shape and buoyancy.

Pneumonitis - Inflammation of the lungs characterized by an outpouring of fluid in the lungs.

Poison Class A - Poisonous gases or liquids of such a nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. (49 CFR 173.326)

Poison Class B - Substances, liquids, or solids other than Poison Class A or irritating materials, which are known to be so toxic to man as to afford a hazard to health. (49 CFR 173.343)

Poison Control Centers (PCC) - Each PCC is available 24 hours a day and can provide immediate health effects, scene management, victim decontamination, and other emergency medical treatment advice for hazardous materials emergencies. A physician specializing in medical toxicology is available for back-up consultation.

Pollution - Contamination of air, water, land, or other natural resources that will or is likely to create a public nuisance and cause health and environmental harm.

Polychlorinated Biphenyl (PCB) - One of several aromatic compounds containing two benzene nuclei with two or more chlorine atoms.

Polymerization - A chemical reaction, usually carried out with a catalyst, heat, or light, and often under high pressure, which generates high temperature and when uncontrolled may be violent.

Post Emergency Response - That portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and cleanup of the site has begun.

Post-Incident Analysis - The termination phase of an incident that includes completion of the required forms and documentation for conducting a critique.

Pre-Incident Planning - The process associated with preparing for the response to a hazard by developing plans, identifying resources, conducting exercises, and other techniques to improve an agency's or organization's response capabilities.

Prevention Plan - See Risk Management Prevention Program.

Product Substitution - Replacing a hazardous substance in a process with a less hazardous substance.

Proper Shipping Name - The DOT designated name for a commodity or material. (49 CFR 172.101)

Protective Action Distance – Isolation and explosion distances that provide specific guidance for small and large spills occurring day or night.

Protective Action Zone - Area downwind from an incident where persons may become incapacitated and unable to take protection and/or incur serious or irreversible health effects.

Protective Clothing - See Personal Protective Equipment (PPE)

Public Information Officer (PIO) - The individual assigned to act as the liaison between the Incident Commander and the news media.

Pulmonary - Pertaining to the lungs.

Pyrophoric - A substance that ignites spontaneously in dry or moist air at or below 130°F. (49 CFR 173.115(c))

Qualitative Fit Test - A physical testing of a breathing apparatus facepiece to the wearer, performed in an atmosphere of amyl acetate or irritant smoke to evaluate whether the wearer can detect the contaminant, indicating mask leakage and improper fit.

Radiation Absorbed Dose (RAD) - A basic unit of absorbed dose of ionizing radiation.

Radioactive - The spontaneous disintegration of unstable nuclei accompanied by emission of nuclear radiation.

Radioactive Material (RAM) - Any material, or combination of materials, that spontaneously emits ionizing radiation and has a specific activity greater than 0.002 microcuries per gram. (49 CFR 173.389)

Recovery Drum - See Disposal Drum

Reference Library - A selection of chemical textbooks, reference books, microfiche, and computer data programs typically carried by a hazardous materials response team.

Regional Plan - A hazardous material plan developed pursuant to SARA Title III.

Regional Response Team - Composed of representatives of the federal agencies and a representative from each state in the ten federal EPA regions as specified in the NCP.

Regional Water Quality Control Board (RWQCB) - The agency charged with managing statewide water quality.

Release, Threatened Release - The actual or potential spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, including the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous material.

Remedial Action - Actions taken to mitigate the effects of a release or threatened release of a hazardous material to protect health or the environment.

Removal Action - See Mitigation

Reportable Incident - Any incident that has or may impact the public health, safety or the environment, or is otherwise required by law to be reported.

Reportable Quantity (RQ) - The designated amount of a specific material that if spilled or released requires immediate notification to the National Response Center (NRC). (49 CFR 172.101, 40 CFR 117.3, 173. and 302.6)

Rescue - The removal of victims from an area determined to be contaminated or otherwise hazardous by appropriately trained and equipped personnel.

Residue - A material remaining in a package after its contents have been emptied and before the packaging is refilled or cleaned and purged of vapor to remove any potential hazard.

Resource Conservation and Recovery Act (RCRA) - The federal framework for the proper management and disposal of hazardous wastes. This program is administered by EPA and may be delegated to the states.

Respiratory Protective Equipment - See SCBA and Air-Purifying Respirators

Response - That portion of incident management where personnel are involved in controlling a hazardous material incident. (NFPA 472, 1-3)

Responsible Party (RP) - A legally recognized entity (person, corporation, business, or partnership, etc.) that has a legally recognized status of financial accountability and liability for action necessary to abate and mitigate adverse environmental and human health and safety impacts resulting from a non-permitted release or discharge of hazardous material; the person or agency found legally accountable for the cleanup of the incident.

Risk Analysis - A process to analyze the probability that harm may occur to life, property, and the environment, and to note the risks to be taken to identify the incident objectives.

Risk Management - Decision-making process that involves such considerations as risk assessment, technological feasibility, economic information about costs and benefits, statutory requirements, public concerns, and other factors.

Risk Management Prevention Plan (RMPP) -

- A plan that encompasses, among other appropriate elements, a structured assessment of hazards.
- A formal personnel training program for the prevention of, and response to, emergencies.
 - ◆ Procedures for periodic safety reviews of operating equipment and procedures.
 - ◆ Schedules for regular testing of the program.
 - ◆ Procedures for the purpose of reducing the probability of accidents.

Roentgen - A measure of the charge produced in air created by ionizing radiation, usually in reference to gamma radiation.

Roentgen Equivalent Man (REM) - The unit of dose equivalent; takes into account the effectiveness of different types of radiation.

Rupture - The physical failure of a container or mechanical device, releasing or threatening to release a hazardous material.

Safety Officer - Selected by the Incident Commander, a person at an emergency incident responsible for assuring that all overall operations performed at the incident by all agencies present are done so with respect to the highest levels of safety and health. The Safety Officer shall report directly to the Incident Commander.

Salivation - An excessive discharge of saliva; ptyalism.

Salvage Drum - See Recovery Drum

Sample - To take a representative portion of the material for evidence or analytical purposes.

Sampling Kits - Kits assembled for the purpose of providing adequate tools and equipment for taking samples and documenting unknowns to create a "chain of evidence."

SARA - See SUPERFUND Amendments & Reauthorization Act

SARA Title III Regional Plan - Regional and Local Plan.

SCBA - See Self-Contained Breathing Apparatus

Scenario - An outline of a natural or expected course of events.

Scene - The location impacted or potentially impacted by hazard.

Scene Manager - See Incident Commander

Secondary Materials - Spent materials, sludges, byproducts, scrap metal and commercial chemical products recycled in ways that differ from their normal use.

Selective Toxicity - The capacity of a chemical to injure one kind of living matter without harming another, even though the two may be in intimate contact.

Self-Contained Breathing Apparatus (SCBA) - A positive pressure, self-contained breathing apparatus (SCBA) or combination SCBA/supplied air breathing apparatus certified by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA), or the appropriate approval agency for use in atmospheres that are immediately dangerous to life or health (IDLH). (NFPA 1991, 13)

Sensitizer - A substance that on first exposure causes little or no reaction in humans or test animals, but which on repeated exposure may cause a marked response not necessarily limited to the contact site.

Sheltering In Place/In Place Protection - To direct people to quickly go inside a building and remain inside until the danger passes.

Shipping Papers - Generic term used to refer to documents that must accompany all shipments of goods for transportation. These include Hazardous

Waste Manifests, Bills of Lading, Consists, etc. Shipping papers are intended to describe what hazardous materials are contained within the shipment, if any.

Short-Term Exposure Limit (STEL) - A 15-minute time-weighted coverage exposure that should not be exceeded at any time during a work day or repeated more than four times per day, even if the 8-hour time-weighted average is within the Threshold Limit Value (TLV).

Skimmer - Physical systems whereby a liquid phase is recovered from another liquid phase due to polarity differences and stored or transferred for further processing. Typical use is to remove petroleum products floating on a water body.

Sludge - Accumulated solids, semisolids, or liquid waste generated from wastewater, drilling operations, or other fluids.

Smoke - An air suspension (aerosol) of particles, often originating from combustion or sublimation.

Solidification - Process whereby a contaminant is permanently immobilized in a substrate to prevent future migration away from the container.

Solubility - The ability or tendency of one substance to blend uniformly with another.

Solvents - A liquid substance capable of dissolving or dispersing one or more other substances to form a uniformly dispersed mixture.

Spill - The release of a liquid, powder, or solid hazardous material in a manner that poses a threat to air, water, ground, and to the environment. (See Incident.)

Spontaneously Combustible – See Pyrophoric

Stabilization - The period of an incident where the adverse behavior of the hazardous material is controlled. (NFPA 472, 1-3)

Staging Area - The safe area established for temporary location of available resources closer to the incident site to reduce response time.

State Warning Center - The center within the state's Office of Emergency Services that monitors seismic activities and is the reporting office for any release or threatened release of a hazardous material or spill.

Stationary Source - A fixed facility from which a release of hazardous materials may originate.

Storage - Containment of hazardous materials on a temporary basis in such a manner as to not constitute disposal of such materials.

Strict Liability - The responsible party is liable even though they have exercised reasonable care.

Superfund Amendments & Reauthorization Act (SARA) - Created for the purpose of establishing federal statutes for right-to-know standards, emergency response to hazardous materials incidents, re-authorized the federal Superfund, and mandated states to implement equivalent regulations/requirements.

Support Zone - See Cold Zone

Surface Impoundment - A natural depression, human made excavation or diked area designed to hold an accumulation of liquid wastes or waste containing free liquids.

Synergistic Effect - The combined effect of two chemicals, which is greater than the sum of the effect of each agent alone.

Systemic - Pertaining to the internal organs and structures of the body.

Systemic Toxic Exposure - Toxic effects to the body as a whole spreading via the bloodstream and often displaying delayed symptoms.

Team Leader - See Entry Team Leader

Technical Specialist - Hazardous Materials Reference Person assigned to document activities of the Hazardous Material Team and gather information relevant to the chemicals involved and their hazards.

Teratogen - A substance or agent that can result in malformations of a fetus.

Teratogenicity - Ability to produce birth defects.

Termination - That portion of incident management where personnel are involved in documenting safety procedures, site operations, hazards faced, and lessons learned from the incident. Termination is divided into three phases-Debriefing, Post-Incident Analysis, and Critique. (NFPA 472, 1-3) (See Post-Incident Analysis.)

Thieving Rod - A glass rod used like a colliwassa, except the liquid is contained in the tube by a vacuum pressure.

Threshold - The point where a physiological or toxicological effect begins to be produced by the smallest degree of stimulation.

Threshold Limit Value (TLV) - The value for an airborne toxic material that is to be used as a guide in the control of health hazards and represents the concentration to which nearly all workers may be exposed 8 hours per day over extended periods of time without adverse effects.

Threshold Limit Value - Ceiling (TLV-C) - The concentration that should not be exceeded during any part of the working exposure.

Threshold Limit Value - Time Weighted Average (TLV-TWA) - An exposure level under which most people can work consistently for 8 hours a day, day after day, with no harmful effects.

Threshold Planning Quantity (TPQ) - The quantity designated for each extremely hazardous substance that triggers a required notification by facilities to the state emergency response commission that such facilities are subject to reporting under SARA Title III.

Totally Encapsulated Suits - Special protective suits made of materials that prevent toxic or corrosive substances or vapors from coming in contact with the body. (See Fully Encapsulated Suit.)

Toxic - Poisonous; relating to or caused by a toxin; able to cause injury by contact or systemic action to plants, animals, or people.

Toxic Chemicals - EPA uses this term for chemicals whose total emissions and releases must be reported annually by owners and operators of certain facilities that manufacture, process, or otherwise use a listed toxic chemical as identified in SARA Title III.

Toxicity - A relative property of a chemical agent that refers to its harmful effect on some biological mechanism and the conditions under which this effect occurs.

Traffic Control/Crowd Control - Action(s) by law enforcement to secure and/or minimize exposure of the public to unsafe conditions resulting from emergency incidents, impediments, and congestion.

Treatment - Any method, technique, or process that changes the physical, chemical, or biological character or composition of any hazardous waste, or removes or reduces its harmful properties or characteristics for any purpose.

United Nations Identification Number (UN) - When UN precedes a four-digit number, it indicates that this identification number is used internationally to identify a hazardous material.

Upper Explosive Limit (UEL) - The highest concentration of the material in air that can be detonated.

Upwind - In or toward the direction from which the wind blows.

Vapor - An air dispersion of molecules of a substance that is normally a liquid or solid at standard temperature and pressure.

Vapor Dispersion - The movement of vapor clouds in air due to turbulence, gravity, spreading, and mixing.

Vapor Protective Suit - See Levels of Protection

Vulnerability - The susceptibility of life, the environment, and/or property, to damage by a hazard.

Warm Zone - The area where personnel and equipment decontamination and hot zone support takes place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. This is also referred to as the "decontamination", "contamination reduction," "yellow zone," "support zone," or "limited access zone" in other documents. (NFPA 472, 1-3)

Water Reactive - Having properties of, when contacted by water, reacting violently, generating extreme heat, burning, exploding, or rapidly reacting to produce an ignitable, toxic, or corrosive mist, vapor, or gas.

Acronyms

AAR	Association of American Railroads
ACGIH	American Conference of Governmental Industrial Hygienists
AEGL	Acute Exposure Guidelines
AFFF	Aqueous Film-Forming Foam
AIDS	Acquired Immunodeficiency Syndrome
AIHA	American Industrial Hygiene Association
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
APR	Air-Purifying Respirator
ANSI	American National Standards Institute
AQMD	Air Quality Management District
ASTM	American Society for Testing and Materials
BLEVE	Boiling Liquid Expanding Vapor Explosion
B of M	Bureau of Mines
BTX	Benzene, Toluene, Xylene
C	Ceiling
CAA	Clean Air Act
CAER	Community Awareness and Emergency Response
CAM	Chemical Agent Monitor
CAMEO	Computer Aided Management of Emergency Operations
CANUTEC	Canadian Transport Emergency Center
CAS	Chemical Abstract Service
CBC	Complete Blood Count
CBRN	Chemical Biological Radiological Nuclear
CBRNE	Chemical Biological Radiological Nuclear Energetic/Explosive
CDC	Center for Disease Control
CDS	Civil Defense Simultest
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
CGI	Combustible Gas Indicator
CHEMTREC	Chemical Transportation Emergency Center
CHRIS	Chemical Hazard-Response Information System
cc	Cubic Centimeter
CMA	Chemical Manufacturers' Association
CNS	Central Nervous System
CPC	Chemical Protective Clothing
CPR	Cardiopulmonary Resuscitation
CRC	Contamination Reduction Corridor
CRZ	Contamination Reduction Zone
CWA	Clean Water Act
CX	Phosgene Oximine
DDT	Dichlorodiphenyltrichloroethane
DECON	Decontamination
DHHS	Department of Health and Human Services
DNR	Department of Natural Resources
DOE	Department of Energy
DOL	Department of Labor
DOT	Department of Transportation
ED	Ethylchloroarsine
EO	Ethylene Oxide
EOP	Emergency Operations Plan
EERU	Environmental Emergency Response Unit
EHS	Extremely Hazardous Substances
EMA	Emergency Management Agency
EMS	Emergency Medical Services
EMSA	Emergency Medical Services Authority
EOC	Emergency Operations Center
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ERCS	Emergency Response Cleanup Services

ERG	Emergency Response Guidebook
ERT	Environmental Response Team
ESLI	End-of-Service-Life Indicator
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FID	Flame Ionization Detector
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIT	Field Investigation Team under contract to EPA
GA	Tabun
GB	Sarin
GC	Gas Chromatograph or Gas Chromatography
GD	Soman
H⁺	Hydrogen ion
HACS	Hazard Assessment Computer System
HASP	Health and Safety Plan
HAZCAT	Hazardous Materials Categorization
HAZMAT	Hazardous Materials
HAZWOPER	Hazardous Waster Operations and Emergency Response
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HD	Sulfur mustard
HN	Nitrogen mustard
HEPA	High Efficiency Particulate Air-filter
HIV	Human Immunodeficiency Virus
HMRT	Hazardous Materials Response Team
HMSO	Hazardous Materials Safety Officer
HSIF	Hazardous Substance Information Form
IAP	Incident Action Plan
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IC	Incident Commander
ICS	Incident Command System
ID	Identification
IDLH	Immediately Dangerous to Life or Health
IR	Infrared Radiation
IUPAC	International Union of Pure and Applied Chemists
L	Lewisite
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
LEPC	Local Emergency Planning Committee
LEL	Lower Explosive Limit
LFL	Lower Flammable Limit
LO	Liaison Officer
LOX	Liquid Oxygen
MAGs	Military Air Guidelines
MEK	Methyl Ethyl Ketone
mg/L	Milligrams per liter
mg/kg	Milligrams per kilogram
mg/m³	Milligrams per cubic meter
MOS	Metal Oxide Semi-conductor
mr/hr	Milliroentgens per hr
MSA	Mine Safety Appliances
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
MUC	Maximum Use Concentration
MUL	Maximum Use Limit
mV/pH	millivolt per potential hydrogen unit
NBR	Nitrile-Butadiene rubber (syn. Buta-N)
NCP	National Contingency Plan
NFPA	National Fire Protection Association
NIC	NIMS Integration Center
NIMS	National Incident Management System
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration
NOS or n.o.s.	Not Otherwise Specified

NOX	Nitrogen Oxide
NPL	National Priority List
NPTN	National Pesticide Telecommunications Network
NRC	National Response Center
NRC	Nuclear Regulatory Commission
OH⁻	Hydroxide or hydroxyl ion
OHMTADS	Oil and Hazardous Materials Technical Assistance Data System
ORM	Other Regulated Material
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OVA	Organic Vapor Analyzer
PAPR	Powered Air-purifying Respirator
PAD	Protective Action Distance
PAZ	Protective Action Zone
PCB	Polychlorinated Bi-phenol
PCC	Poison Control Center
PD	Phenyldichloroarsine
PEL	Permissible Exposure Limit
PF	Protection Factor
pH	potential Hydrogen, Relates to corrosives (acids and bases)
PID	Photoionization detector
PIO	Public Information Officer
PLHCP	Physician or Licensed Healthcare Professional
ppb	Parts per billion
PPE	Personal Protective Clothing and Equipment
ppm	Parts per million
psi	pounds per square inch
PVC	Poly Vinyl Chloride
QLFT	Qualitative Fit Test (subjective)
QNFT	Quantitative Fit Test (measured or numbered)
RAM	Radioactive Material
RBC	Red Blood Count
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit
REM	Roentgen Equivalent Man
RMPP	Risk Management Prevention Plan
ROE	Routes of Entry or Exposure
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
SAR	Supplied Air Respirator
SBR	Styrene-Butadiene Rubber
SCBA	Self-contained Breathing Apparatus
SO	Safety Officer
SOPs	Standard operating procedures
SOSG's	Standard Operating Safety Guidelines
STEL	Short-Term Exposure Limit
TAT	Technical Assistance Team under contract to EPA
TCE	Trichloroethylene
TECP	Totally Encapsulated Chemical Protective (suit or clothing)
TICs	Toxic Industrial Chemicals
TIMs	Toxic Industrial Materials
TLV	Threshold Limit Value
TLV-C	Threshold Limit Value-Ceiling
TPQ	Threshold Planning Quantity
TSCA	Toxic Substance Control Act
TWA	Time-Weighted Average
UEL	Upper Explosive Limit
UL	Underwriters Laboratories
USCG	United States Coast Guard
USGS	United States Geological Survey
UC	Unified Command
UN	United Nations
UV	Ultraviolet
VX	Venom X: nerve agent
WMD	Weapons of Mass Destruction

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